Fall 2000 www.nbii.gov Volume 3, Number 4

## NBII, NSF, and NASA Sponsor National Biodiversity Informatics Workshop

The National Biological
Information Infrastructure (NBII)
program teamed up with the
National Science Foundation (NSF)
and NASA recently to co-sponsor a
national workshop on developing a
computer science/information
technology research agenda for the
NBII's next generation. The
Workshop on Biodiversity
Informatics was held June 22-23 at
NASA's Goddard Space Flight
Center in Greenbelt, MD. The
workshop brought nationally known

researchers and developers in computer science and information technology together with a representative group of biological scientists and natural resource managers.

More than 30 participants from government agencies, universities, nonprofit organizations, and private industry worked together during the two-day meeting to identify the major computer science and information technology research questions and challenges associated

with supporting biodiversity science and conservation, particularly in the context of building the next generation NBII. Workshop participants also looked at ways that computer science and information technology applications that are currently used in other fields (such as the physical sciences or genomics) could be effectively applied to the biodiversity and ecosystem science realm.

In order to present the participants with tangible examples (continued on page 4)

## **NBII Is Focus of Workshop at Ecological Society of America Annual Meeting**

How the NBII can help support the information needs of the ecological sciences community was the focus of "Connecting Ecological

Information: The NBII and Ecologists," a special workshop at the Ecological Society of America (ESA) annual meeting in Snowbird, Utah, in August. A panel of speakers from the academic research community, government science agencies, and from ESA looked at the ways ecologists were currently involved in building and using the NBII and ways that they can influence the future development and capabilities of the NBII.

ESA and the NBII co-sponsored the workshop, which included the following speakers: Aaron Ellison

(continued on page 4)



Meredith Lane of the Academy of Natural Sciences provided NBII workshop attendees with an overview of the Global Biodiversity Information Facility.

### In This Issue

1	Toward an Integrated Taxonomic	
	Information System for North	
		2
	NBII Carries Its Message to VLDB	3
	Scout Report Says NBII Web	
	Site "Covers the Best"	5
	NBII Collaborates with NSDI to	
	Fund Projects	5
	NBII and the Central Region	
	State Partnership Program	6
	IABIN Proposals Highlight	
	Working Groups Meeting	8
	New Look Comes to BioBot	8
	NBII Exhibits at Special Libraries	
	Association Annual Conference.	9
	CHM Recommendations	
	Adopted at COP-5	9
	Biosafety Clearing-House	
	Experts to Meet	9
	Fullbright Scholar Joins NBII Team .	
	ITIS and TRED Win Links2Go	
	Taxonomy Awards	11
	Upcoming Events of NBII Interest	
	NBII Metadata Training	

## Toward an Integrated Taxonomic Information System for North America

On June 13-14, representatives from Canada, Mexico, and the United States met in Washington, DC. Discussions centered on approaches for improving and expanding the current Integrated Taxonomic Information System (ITIS) to be a comprehensive and dynamic reference of the names of species that are important for North America. They agreed to share resources on this project and to achieve considerable progress by the end of the year 2005. Following is a preliminary proposal for an Integrated Taxonomic Information System for North America (ITIS North America).

ITIS, a vital NBII component, is currently a partnership of several U.S. federal agencies, the Smithsonian Institution, Agriculture Canada, and several other cooperators. It is rooted in the National Oceanographic Data Center's original list of scientific

names for marine organisms, but has expanded in recent years to include terrestrial and aquatic species from all biological kingdoms (animals, plants, fungi, protists, and monera microbes). While the system focuses on North American species, it also includes worldwide treatment of selected groups of birds, mammals, fishes, amphibians, corals, reptiles, and mollusks, among others. It currently contains nearly 300,000 names and is readily accessible through the NBII <a href="http://">http://</a> www.itis.usda.gov> and Canadian <a href="http://res.agr.ca/itis">http://res.agr.ca/itis</a> Web sites.

ITIS North America will be a dynamic reference of currently accepted scientific names for all described species important to North America. It will also include associated synonyms and common names, authors, references, and information about distributions of species. ITIS North America will be maintained on a centralized master

database in the United States, with mirror sites and Web interfaces in Canada and Mexico. Operational languages on the Web sites will include English, French, and Spanish. ITIS North America will actively engage the scientific community through individuals, professional societies, and institutions, to help construct and maintain the system. Through the new ITIS North America project we hope to:

- Expand the content and continually improve the quality and usefulness of the database. Because valid taxonomic names of organisms are essential information for interoperability among all biological information systems, the ITIS partners need to expand the content and correct the provisional or unknown quality of legacy data.
- Streamline and accelerate the process for adding, modifying, and removing data. The current system for inputting data is sometimes cumbersome and time-consuming. ITIS needs a simple, user-friendly, and widely available mechanism to allow minor editing, as well as inputting or replacing large data sets, while ensuring high database integrity and change tracking.
- Involve a broader and more diverse group of partners and customers in the construction, maintenance, and use of the system. As ITIS has grown, its use and application have extended beyond the federal government to the states, to other countries, to the general public, to the private sector, and to academia. The explosive growth and diversification of the ITIS customer base will require greater cooperation with the systematics and information technology communities and from stakeholders to assure scientific

(continued on page 3)



Access, the newsletter of the National Biological Information Infrastructure, is published by the NBII National Program

> Ron Sepic, Editor Wendy Wicks, Associate Editor Cheryl Williams Levey, **Production Specialist** Donna Foulke, Web Specialist Vince Wilding, List Specialist

#### Contributors:

Barbara Bauldock Gladys Cotter Frank D'Erchia Anne Frondorf Elizabeth Martin Bruce Powell Mike Ruggiero Gary Waggoner Lisa Zolly

Just send your comments, article ideas, and requests to be added to our mailing list (as well as address corrections) to:

Ron Sepic, Access Editor **USGS-Biological Resources Division** 302 National Center Reston, VA 20192 Phone: 703/648-4218

Fax: 703/648-4224 E-mail: ron\_sepic@usgs.gov

Be sure to check out Access on the Web at <a href="http://www.nbii.gov/news/">http://www.nbii.gov/news/">.

Please direct your general questions about the NBII, including partnership opportunities, to:

Anne Frondorf, Manager **NBII National Program Office** 302 National Center Reston, VA 20192 Phone: 703/648-4205

Fax: 703/648-4224 E-mail: nbii\_program@nbii.gov

Visit the NBII Home Page at <a href="http://www.nbii.gov">http://www.nbii.gov</a>>.

## Toward an Integrated Taxonomic Information System for North America (continued from page 2)

- credibility and relevant technological innovation. In addition, new strategies and techniques for communicating data and information to a more diverse and multilingual customer base are needed.
- Harmonize and optimize management of ITIS in North America. Work done thus far in the United States and Canada has been coordinated by regular informal discussions among participants in the project. This ad hoc approach has been adequate in the past. However, current intentions of expanding the project to include Mexico, reorganizing and reenergizing the taxonomic and information technology work groups, accelerating data acquisition, and more aggressively marketing and networking the project will require a more structured approach to management.



The five kingdoms of organisms, clockwise from top left: animals, plants, fungi (pictured: mushroom), monera (pictured: bacteria), and (center) protists (pictured: trypanosoma). Animal and plant photos (c) Photodisc. Trypanosoma photo (c) BIODIDAC Authors: Antoine Morin and Jon Houseman, http://biodidac.bio.uottawa.ca/thumbnails/zoom001p-GIF.htm. Bacteria (E. coli) photo (c) James A. Sullivan, www.cellsalive.com, used with permission.

## **NBII Carries Its Message to VLDB**

On September 13, Gladys Cotter, Associate Chief Biologist for Information at the U.S. Geological Survey, presented a formal paper on "Biodiversity Information Infrastructure: An Information Commons for the Biodiversity Community" at the 26<sup>th</sup> International Conference on Very Large Databases (VLDB) in Cairo, Egypt. Cotter oversees the development of the National Biological Information Infrastructure (NBII).

The paper presented an overview of efforts to create an information infrastructure for the biodiversity community. Cotter provided some essential requirements as well as challenges related to building this infrastructure. Barbara Bauldock,

Director of NBII International Activities, co-authored the paper.

In her session, Cotter told her diverse audience that the NBII participates in collaborative international activities with government agencies as well as international biodiversity conservation organizations. She invited scientists from around the world to join the NBII in exploring new partnerships as well as new opportunities to develop tools and technologies across organizations, disciplines, and national boundaries.

This year marked the first year the VLDB conference broadened its offerings to include a track on biodiversity and biodiversity informatics. In so doing, the conference attracted renowned experts in the field. For instance, Dr. Ebbe S. Nielsen, Director, Australian National Insect Collection, and one of the world's leading biodiversity scientists and an expert in the developing field of biodiversity informatics, gave a keynote talk titled "Biodiversity Informatics: The Challenge of Rapid Development, Large Databases and Complex Data."

Over its 25 years of history, the VLDB conference has served as the premier international forum for the exchange of research results, as well as application notes and vendor development and research results in all aspects of database management and related fields.

#### NBII Is Focus of Workshop at Ecological Society of America Annual Meeting (continued from page 1)

of Mt. Holyoke College spoke on "The NBII and Ecologists"; John Porter of the University of Virginia and the Long-Term Ecological Research (LTER) Network spoke on "The LTER Network and the NBII"; Mike Frame and Gary Waggoner of the USGS spoke on "Recent NBII Technology Initiatives— Applications for Ecology"; Meredith Lane of the Academy of Natural Sciences spoke on the "Global Biodiversity Information Facility"; Anne Frondorf of the USGS spoke on "Building the Current NBII"; John Schnase of NASA spoke on the "Next Generation NBII"; and Lori Hidinger and Ron Slangen of ESA spoke on the "Ecological Information Network—Connecting ESA and NBII."

Following the panelists' presentations, the audience joined with the panel in an open discussion of the challenges and benefits of sharing ecological sciences data and information and how networks such

as the NBII can help ecologists do this better. The NBII was also highlighted throughout the ESA annual meeting at an exhibit booth that featured several live demonstrations of NBII capabilities with ecological science applications (see photos at right and below).





Mike Mulligan (above, right) and Sharon Shin (below, left) were among the NBII exhibit staff who spoke to a steady stream of booth visitors throughout the ESA annual meeting.

## NBII, NSF, and NASA Sponsor National Biodiversity Informatics Workshop (continued from page 1)

as a starting point for their discussions, the workshop began with "case study" presentations on two high-priority biodiversity science and resource management issues: invasive species and salmon science and conservation in the Pacific Northwest. These talks and the further workshop discussions helped to demonstrate that biodiversity and ecosystems science provides an exciting and challenging "real world" domain for researchers in computer science and information technology. Workshop participants identified opportunities and mechanisms for better communicating or conveying this exciting research agenda

among the broader computer science and information technology community.

Development of the next generation NBII was a specific recommendation of the President's Committee of Advisors in Science and Technology (PCAST) in their 1998 Teaming with Life: Investing in Science to Understand and Use America's Living Capital report on biodiversity. A report on the results and recommendations of the workshop will be produced by October 2000.

The NBII is a broad, collaborative program to provide increased access to data and information on the nation's biological resources. The NBII links diverse, high-quality biological databases, information products, and analytical tools maintained by NBII partners and other contributors in government agencies, academic institutions, non-government organizations, and private industry. NBII partners and collaborators also work on new standards, tools, and technologies that make it easier to find, integrate, and apply biological resources information. Resource managers, scientists, educators, and the general public use the NBII to answer a wide range of questions related to the management, use, or conservation of this nation's biological resources.

# Scout Report Says NBII Web Site "Covers the Best"

The Scout Report for Science & Engineering has cited the National Biological Information Infrastructure (NBII) in its June top 25 Web site listings. The report, which alerts librarians and researchers to interesting and useful resources on the Web, is provided by the Internet Scout Project. Funded by the National Science Foundation, the Scout Project is based at the University of Wisconsin-Madison. Its mission is to make the Internet more useful and accessible to researchers and educators in the sciences.

The Science & Engineering Report summarizes 25 Web sites featuring noteworthy research



such criteria as quality and depth of content, author, credibility, and information maintenance and presentation. The content of each resource is briefly described in each report.

The June 7 issue of the Scout Report (Volume 3, No. 19) <a href="http://scout.cs.wisc.edu/report/sci-eng/2000/se-000607.html">http://scout.cs.wisc.edu/report/sci-eng/2000/se-000607.html</a> featured the NBII Biology in the News Web site <a href="http://www.nbii.gov/bionews/">http://www.nbii.gov/bionews/</a> among its Current



(including government)
organizations, high-quality
research/education resources,
academic discussion sites
(listservs), new scientific journals
(or newly online journals with
completely free access), newly
released databases with free
access, new grants and job
opportunities, upcoming
scientific meetings, and recent
academic publications. The
selection of resources included in
the Scout Report are based on

Awareness picks for the issue. It commended the NBII for "maintaining this nice metasite of current science news sites. The sites listed here offer daily science news stories, features on hot science topics (emphasizing U.S. Geological Survey findings), and links to scientific magazines and newsletters. For researchers, educators, and students interested in following the cutting edge of science news, this metasite covers the best."

# **NBII Collaborates with NSDI to Fund Projects**

The NBII program has joined with the National Spatial Data Infrastructure (NSDI) program to help support several selected projects that will increase access to a variety of biological data sets from key activities around the United States. The NSDI program represents a broad consortium of government agencies and nongovernment organizations that work together to promote more costeffective production, ready availability, and greater utilization of geospatial data across a range of disciplines. The NBII and NSDI programs regularly collaborate on areas of mutual interest in terms of standards and technology development, community outreach and partnership building, and providing joint funding support for selected projects.

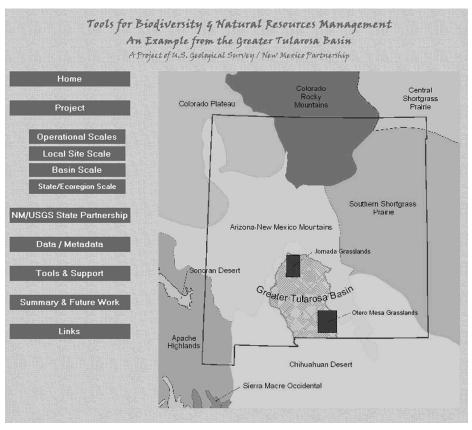
This year, the NBII joined with the NSDI to help co-fund five of the projects selected through the NSDI's annual competitive Cooperative Agreements Program (CAP), which supports innovative projects across the United States that are seeking to expand access, sharing, and utility of geospatial data. Selected NSDI-CAP projects that received partial support from the NBII include: Developing Metadata for the National Parks of the United States (University of Rhode Island): Building a Western Great Basin Ecoregional Clearinghouse Node (University of California-San Diego); Yellowstone-to-Yukon Joint U.S.-Canada Initiative (University of Montana); Hawaii Metadata Clearinghouse Initiative (Hawaii Geographic Information Coordinating Council); and Metadata Creation for GIS Layers Relating to Biodiversity in Nevada and the Great Basin (University of Nevada).

## NBII and the Central Region State Partnership Program

The State Partnership Program is a mechanism for the U.S. Geological Survey (USGS) to partner with states and tribal governments to provide scientific understanding in support of the sound management and

#### **New Mexico**

Changing population demographics, economics, cultures, and policies in the Southwest have sparked numerous issues over public land



This Web page was produced as a result of the State Partnership with New Mexico.

conservation of the nation's biological resources. The Central Region effort supports projects that seek to make access to biological information easier and more efficient. This is accomplished primarily by preparing, documenting, and serving the data and metadata over the Internet using NBII Clearinghouse nodes, which streamline information access, storage, and retrieval. Some of the state partnership efforts are described below.

management, resource extraction, biodiversity protection, and recreation interests. The partnership will help this range of interest groups and government agencies meet increasing needs for access to current, accurate, well-documented, and organized information on Southwest biological resources. The New Mexico Natural Heritage Program is coordinating the effort with the USGS Midcontinent Ecological Science Center.

The State Partnership with New Mexico has resulted in the collection of approximately 450 data files; of these, over 200 metadata files have been created and are being served via the NBII Clearinghouse node created at the University of New Mexico. In addition, the partnership has resulted in a Web page <a href="http://nmusgs-partners.unm.edu/> that provides partners with direct access to assembled data and metadata, and also a number of data modeling analyses on such topics as fire history and grazing.

#### Montana

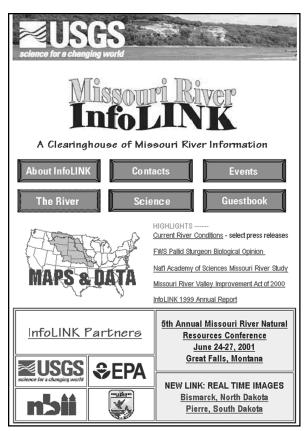
USGS scientists are beginning to focus on analyses of landscapelevel habitat use by ungulates (hoofed mammals) and carnivores, relative to human use and habitat change. In particular, use of the Gardiner Basin portion of the Northern Yellowstone Winter

(continued on page 7)



Bighorn sheep.

## NBII and the Central Region State Partnership Program (continued from page 6)



The Missouri River InfoLINK.

Range by elk, mule deer, bighorn sheep, and pronghorn antelope is of great concern to management agencies in relation to human activities including prescribed burning, logging, ranching, and housing. Similarly, the impacts on grizzly bear, black bear, and mountain lion of potential competition from the reintroduced gray wolf across the northern Yellowstone range is of ecological interest and concern to management agencies.

USGS Northern Rocky Mountain Science Center staff, located in Bozeman, Montana, will address many of these issues using spatial analyses. The State Partnership with Montana has resulted in the establishment of an NBII Clearinghouse Node at Montana State University (MSU). Numerous data sets have been identified and documented with metadata. These metadata files, along with the data sets, will be served on the MSU NBII Clearinghouse Node by this fall.

#### Missouri

Manitou Bluffs Project is a program of the Missouri River Communities
Network. Its goal is to establish a sustainable development planning effort in a 50-mile reach of the Missouri River and its associated counties. A Public/Private Partnership consisting of a minimum of sixty local stakeholders will research and publish a Community Profile that classifies the cultural,

environmental, and economic conditions of the area. Information and maps will be acquired from a variety of sources, including the Missouri River InfoLINK <a href="http://">http://</a> infolink.cr.usgs.gov/> (see screen at left).

The project brings together citizens and local, state, and federal government agencies to assess the area and plan for its future. The group will be prepared to plan and facilitate the expected increase of use in the Manitou Bluffs area during the upcoming Lewis & Clark Bicentennial Commemoration beginning in 2003. As part of this State Partnership effort, the USGS Columbia Environmental Research Center has established an NBII Clearinghouse Node to serve metadata for the Missouri River area.

#### **Texas**

The Central Region has funded a partnership between the USGS National Wetlands Research Center and the Texas/Mexico Borderlands Information Center. Critical issues are converging in the 1990s to focus attention on the Texas/Mexico border region. Among these are rapid population growth, water supply, the array of changes brought about by free trade, and the growing concerns about air and water pollution. Attempts to address these problems depend on reliable and timely data and information on both sides of the border. As a result of this effort, an NBII Clearinghouse Node was established to serve partners in the Texas/New Mexico border area.

#### Louisiana

A new State Partnership agreement is being developed for the Lower Mississippi River Valley (LMRV) by the Louisiana Department of Environmental Quality and the USGS National Wetlands Research Center. Biological data sets will be collected, documented, and served on an NBII Clearinghouse Node. Two additional data sets—one created from the 1800s public land survey records and the other a merge of LMRV states' Gap Analysis Program land cover data sets—will also be created and documented.

For additional information, please see <a href="http://">http://</a> biology.usgs.gov/cro> or contact Frank D'Erchia, Program Manager, 303/236-2730, x246.

## Inside IABIN

## **IABIN Proposals Highlight Working Groups Meeting**

Developing a proposal for submission to the Global Environmental Facility (GEF) was the main agenda item at a meeting of two Inter-American Biodiversity Information Network (IABIN) Technical Working Groups, held June 27-28, in Washington, DC. The Organization of American States (OAS) hosted the joint meeting of the Financial Sustainability and Technical Work Plan working groups, which were established at the Miami IABIN Council Meeting to address proposals for funding network activities in 2000 and beyond.

The Working Groups agreed to prepare a Project Development Facility (PDF) Block B proposal and submit it to the World Bank, one of the three Implementing Agencies for the GEF. Target date for submission of the proposal is late 2000. If awarded, the Block B grant will provide funds for the development of a multi-million dollar IABIN project proposal to the GEF. The PDF proposal requests \$350,000 from the World Bank to fund an IABIN-wide consultative process to

develop the full-size project proposal. That consultative process will include a series of three regional workshops to perform a needs assessment for the hemisphere and an IABIN Council Meeting to address a strategic direction for IABIN. Network needs and direction will need to be reflected in the full-size project proposal.

The United States announced at the Working Groups meeting that it had submitted a proposal to the U.S. Agency for International Development (USAID) on behalf of IABIN. The requested funds will support a study on the development of a long-term financial sustainability strategy for IABIN.

In August 2000, the Alexander von Humboldt Institute in Colombia will submit a proposal to the Organization of American States FEMCIDI fund to extend to more countries some of the activities initiated as part of a metadata project funded by the World Bank in 1999. The project proposed to the OAS, titled "A Prototype Catalog Network for the Inter-American"

Biodiversity Information Network," will provide training on metadata to participants from Brazil, Chile, Colombia, Guatemala, and Jamaica. It will also support training on and development of catalog nodes for biodiversity metadata in these countries. As additional nodes are developed, they will be linked to existing catalog systems in North and Central America, thereby creating a truly hemispheric electronic infrastructure for biodiversity information.

A USAID decision on the IABIN proposal is expected before the end of September. OAS FEMCIDI awards should be announced in late fall. A decision on the Block B PDF proposal could be made by the World Bank as soon as 30 days after submission of the proposal.

IABIN is an international initiative to promote greater coordination among Western Hemisphere countries in the collection, sharing, and use of biodiversity information. Information on IABIN can be found at <www.iabin.org> (international site) and at <www.iabin-us.org>, the new URL for the U.S. site.

### **New Look Comes to BioBot**

Introduced earlier this year, BioBot <www.nbii.gov/search/ biobot> — the NBII's truly unique search engine for the biological community — recently got a new look (see right).

Have you used BioBot yet? If not, please remember that BioBot has two distinct parts. The first is the main search screen; the second is MyNBIIFilter.

To use the latter, click on "My NBII Filter" and fill in the information requested to create your BioBot account. Next, define ("profile") your topic of interest.



Then, choose the kind of search you want BioBot to perform ("Search Type"), the search engines you want BioBot to use ("Choose

Sources"), and how often you want results delivered to your desktop — daily, weekly, biweekly, or monthly. Questions? Just click on "Help."

BioBot immediately scours the Web for your topic of interest and delivers relevant information. You can search the NBII as well as a variety of leading Web search engines that you select. BioBot presents results to you in a ranked, concise format, for review at your convenience. You'll get more results at the specified time interval. BioBot writes you a personal note that tells you about more resources and where to find them. You also have the option to modify your query. You might want to add or delete search topics — or refine your existing search queries. It's your call.

BioBot hopes to see you on the Information Superhighway!

## NBII Exhibits at Special Libraries Association Annual Conference

The NBII traveled to Philadelphia on June 12-14 as a first-time exhibitor at the Special Libraries Association (SLA) Annual Conference. The event — attended by more than 7,000 librarians, knowledge managers, and information professionals from around the country — provided excellent opportunities to introduce the NBII to new audiences and gather feedback from current NBII customers.

The SLA is a professional organization whose members include librarians, knowledge managers, and information specialists from academic, corporate, federal, and public sectors. These individuals locate, collect, evaluate, and synthesize data and information. Many facilitate decision-making in the areas of natural resources use and management, provide foundations for current scientific research, or answer general questions about biological issues. Resources and tools available through the NBII can be of great value to these professionals in providing their customers with timely and accurate biological information.

The NBII chose the SLA Annual Conference for the official launch of BioBot, a new and unique tool developed by the NBII to locate biological information on the Web. Conference attendees were enthusiastic in their reception of BioBot, which can be programmed by users to search against the NBII and other biological resources indexes of well-known Web directories. BioBot also offers a personalized "filter" that enables users to save searches of ongoing interest, and have updated results

(continued on page 10)

## **CHM Connection**

## CHM Recommendations Adopted at COP-5

Support for the implementation of the Clearing-House Mechanism (CHM) strategic plan and endorsement of the longer-term program of work for the CHM were two of the recommendations which were adopted at the Fifth Conference of Parties to the Convention on Biological Diversity (COP-5), held in May in Nairobi, Kenya. These recommendations are now officially decisions of the COP.

The COP also decided that the Informal Advisory Committee (IAC), on which the United States serves as a representative of the Inter-American Biodiversity Information Network, shall have the following objectives:

- Provide advice on matters relating to the CHM, in particular improving its effectiveness in promoting scientific and technical cooperation;
- Facilitate greater input of the Parties into CHM development;
- Advise on ways and means to

develop the CHM network; and

 Facilitate and encourage cooperation with other relevant international and regional information networks and initiatives.

The IAC mandate will be reviewed at COP-7, to be held in 2004.

The recommendations were first developed through a consultative process with National Focal Points and the CHM Informal Advisory Committee and were presented to the Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA) at its meeting in Montreal in February. SBSTTA, in turn, included the CHM items in the list of recommendations on all matters which SBSTTA presented at COP-5.

The full text of the COP decisions on CHM are available at <www.dainet.de/FIZ-AGRAR/CHMDOC/list\_eng.htm>, an archive of COP decisions hosted by the German Clearing-House Mechanism.

## **Biosafety Clearing-House Experts to Meet**

The Cartegena Protocol on Biosafety, concluded in Montreal in January 2000, established a Biosafety Clearing-House (BCH) to facilitate the exchange of scientific, technical, environmental, and legal information on, and experience with, living modified organisms. A Technical Experts Group will meet in Montreal in September to begin planning the implementation of the BCH. The U.S. Department of Agriculture and the Smithsonian Institution have been selected by the State Department to represent the United States at the Experts Group

meeting. The BCH, when implemented, will be linked with the CHM. The text of the Biosafety Protocol is available at <www.biodiv.org/biosafe/Protocol/Protocol.html>; the BCH is discussed in Article 20.

The CHM, an international initiative of the Convention on Biological Diversity (1992), is designed to facilitate technical and scientific cooperation among countries and to provide global access to and exchange of information on biological diversity. Additional information is available at <www.biodiv.org/chm/>.

### **Fullbright Scholar Joins NBII Team**

Vishwas Chavan, a scientist at the National Chemical Laboratory (NCL), Pune, India, recently joined the NBII National Program Office in Reston, VA, as a Fulbright Scholar in residence. He will spend much of his 6-month tenure as a Fulbright Fellow working with NBII staff on a variety of biological informatics issues.

Vishwas will focus many of his activities on examining metadatabases and clearinghouse mechanisms. He intends to apply this knowledge to the development of a comprehensive multimedia meta-database on biodiversity in the Western Ghats, a mountainous region of western India.

"In the past, I've used mainly species diversity information to build databases," he says. "Now I expect to collate geospatial information along with

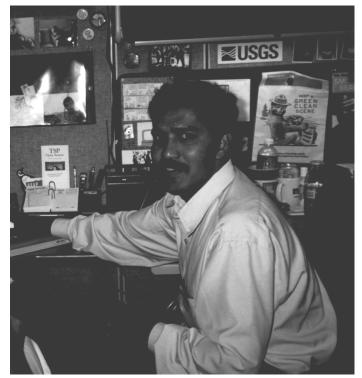
information on genetic diversity into biodiversity meta-databases."

Vishwas' accomplishments are many and varied; for instance, he has published more than 50 research and review papers of which 11 are in refereed journals. In addition, Vishwas has developed several Webbased applications, such as a search engine for oceanographic

information. He holds six copyrights for various Web-based applications.

Computer-aided taxonomy is a special area of his interest. In the coming months, Vishwas plans to interact with principals in the Integrated Taxonomic Information System and others to explore basic concepts of computer-assisted taxonomic identification systems and taxonomic coding systems. He will employ the same strategies and technologies to Indian flora and fauna, with appropriate modifications.

"I'm delighted that Vishwas can join us here in Reston," said Gladys Cotter, Associate Chief Biologist for Information, U.S. Geological Survey. "I know that the special skill mix and the international perspective he brings to a variety of NBII issues will help the program in many ways."



Vishwas Chavan

## NBII Exhibits at SLA Annual Conference (continued from page 9)

delivered to their desktops at intervals they specify. Attendees declared BioBot a much-needed current awareness tool that will enable Web users to receive timely, more relevant biological information.

For attendees unfamiliar with the NBII, the conference provided a forum for introducing the program, demonstrating the many thematic nodes and resources on the Web site. and highlighting the breadth and variety of partners actively participating in the NBII's growth and success. Many current NBII users visiting the NBII booth shared their experiences using the Web site and offered valuable input regarding their resource needs and interests. The NBII program looks forward to a continuing and positive relationship with these librarians and the other information professionals who are a core NBII constituency.

During the SLA Conference, several NBII partners were recognized for their contributions to biological informatics in the annual and very popular "Best Science Sites on the Web" session. The Integrated Taxonomic Information System was selected as one of the top Web resources for Taxonomy and Systematics. Also highlighted in this category were: the PLANTS National Database, a project of the U.S. Department of Agriculture (USDA); and the Taxonomic Resources and Expertise Directory, a cooperative effort between the USGS and the USDA. Highlighted in the Ecology category were the Web sites of NBII partners The Nature Conservancy, the Ecological Society of America, and the U.S. Fish & Wildlife Service. All of these resources are accessible through the NBII. We congratulate these partners for this recognition by the library and information community.

### ITIS and TRED Win Links2Go Taxonomy Awards

The Integrated Taxonomic Information System (ITIS) and the Taxonomic Resources Expertise Directory (TRED) Web sites have both won Links2Go awards as "Key Resources" under the category of "Taxonomy." Links2Go <a href="http://www.links2go.com">http://www.links2go.com</a> is a search and directory service for online businesses and end users. It automatically compiles and prioritizes links to the most relevant Internet content on tens of

thousands of topics spanning tens of millions of Web pages.

Each quarter, Links2Go samples millions of Web pages to determine which pages are most heavily cited by Web page authors. The most popular pages are downloaded, automatically categorized by topic, and displayed as Key Resources. The Web pages that win Key Resource awards are among the most relevant pages related to a particular topic on the Web, as



determined by Link2Go's objective statistical measurements. Fewer than one page in one thousand is ever selected as a Key Resource. The ITIS and TRED Web sites are cited as Key Resources in the Taxonomy topic at <a href="http://www.links2go.com/topic/Taxonomy">http://www.links2go.com/topic/Taxonomy</a>.

ITIS <a href="http://www.itis.usda.gov/">http://www.itis.usda.gov/</a>
itis> is the first comprehensive,
standardized reference for the
scientific names—as well as
synonyms and common names—
for all the plants and animals of
North America. It is being
developed through the cooperative
efforts of several federal agencies,
the Smithsonian Institution's
National Museum of Natural
History, and two international
partners, Agriculture Canada and
CONABIO of Mexico.

TRED <a href="http://www.nbii.gov/">http://www.nbii.gov/</a> datainfo/syscollect/tred/> is an online directory of taxonomic specialists with expertise on the biological diversity of North America (north of Mexico) and adjacent oceans. To identify specialists with specific taxonomic expertise. Internet users can search the TRED directory in several ways: by biological group, by habitat and/or by geographic region address, or by the taxonomic specialist's name. TRED has been developed by the NBII in collaboration with the Association of Systematics Collections to help the NBII and ITIS activities.

Upcoming Events of NBII Interest	2000	
Internet Librarian 2000 Conference, Monterey, CA	November 5-9	
NALMS 2000: Celebrating 20 Years of People Linking Lake and Watershed Management, Miami, FL	November 7-10	
TDWG 2000: Digitizing Biological Collections- Taxonomic Database Working Group, Frankfurt, Germany	November 10-12	
Conference on Wetland Systems for Water Pollution Control, Lake Buena Vista, FL	November 11-16	
American Society for Information Science Annual Meeting, Chicago, IL	November 13-16	
"Vision, Mission, Reality: Creating Libraries for the 21st Century," Palm Springs, CA	November 30- December 2	
Online Information 2000, London, England	December 5-7	
	2001	
Association for Library & Information Science Education National Conference, Washington, DC	January 9-12	
American Library Association Midyear Meeting, Washington, DC	January 12-17	
Special Libraries Association Winter Meeting, Savannah, GA	January 20-22	

## NBII Metadata Training

Training Schedule	2000
USGS Patuxtent Wildlife Research Center, Laurel, MD. 2 day workshop.	September 27-28
USGS Southeast Environmental Center, Miami, FL. 2 day workshop.	October 13-14
Smithsonian Environmental Research Center, Edgewood, MD. 2 day workshop.	October 24-25
Lake Mead National Recreation Area, Boulder City, NV. 2 day workshop.	October 26-27
Yellowstone to Yukon Initiative, Calgary, Canada. 1 day workshop.	November 8
Yellowstone to Yukon Initiative, Bozeman, MT. 1 day workshop.	December 6

A metadata training workshop is usually a full two-day course in which participants engage in in-depth discussions, and receive hands-on training, on metadata activities related to the Federal Geographic Data Committee's metadata standard and the NBII biological metadata profile, MetaMaker (the NBII metadata data entry tool), and the NBII Clearinghouse.

For the latest information regarding locations and dates of metadata training classes, just check <a href="http://www.nbii.gov/metadata/training/">http://www.nbii.gov/metadata/training/</a> index.html> or contact:

Sharon Shin
NBII Metadata Training
Workshop Coordinator
USGS-Biological Resources
Division
Center for Biological Informatics
P.O. Box 25406, MS 302

Denver, CO 80225 phone: 303/202-4230 fax: 303/202-4219 e-mail: sshin@nbii.gov



NBII National Program Office U.S. Geological Survey, 302 National Center Reston, VA 20192